

Ana Isabel SANZ MOLINERO
Appl. No. 10/537,897
Atty. Ref.: 4982-5
Amendment After Final Rejection
May 22, 2009

REMARKS

Reconsideration is requested.

The claims have been amended, without prejudice.

Independent claims 1-3 and 29 have been revised to define the motifs by the noted sequence identifiers. The disclosed variability of the sequences is described in the Sequence Listing. No new matter has been added.

Claims 53-55 have been rewritten as dependent claims. The Examiner is urged to appreciate from the following sequence alignment that SEQ ID NOs: 2, 13, 15, 17, 21, 25, 27, 29 and 33 of the revised claims include the motifs of the independent claims (i.e., SEQ ID NOs: 5, 7, 8 and 9) which the Examiner has confirmed to have been examined. See page 3 of the Office Action dated February 25, 2009. The Examiner is requested to appreciate that SEQ ID NO:51 is a disclosed and previously claimed alternative of SEQ ID NO:5 wherein Leu at position 3 may be any hydrophobic amino acid. Rejoinder and examination therefore of the withdrawn claims are requested.

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	1		50
SEQIDNO_13	(1)	MALEALNSPT--TTAP---SFPFDDPT-----I-PWAKPKRSKRSR--	
SEQIDNO_15	(1)	MAMEALNSPTTATPFT---P---FEEPNI-LSYLETPWTKCKRSKRSR--	
SEQIDNO_21	(1)	MALEALNSPT-TTTPP---SFQFENNG--LKYLESWTKCKRSKRSR--	
SEQIDNO_25	(1)	MALEALNSPTGTFTTPP---PFOFESDGOQLRYIENWRKCKRSKRSR--	
SEQIDNO_17	(1)	MTLEALKSPTAATPTL---PPRYEDDD-EIHNLDSWAKCKRSKRSR--	
SEQIDNO_27	(1)	MALEAMNTPTS---S-FTRIETKEDLMNDVFIETPWLEKCKRSKRSRHS	
SEQIDNO_2	(1)	MALEALTSPLASPIP---P---LFEDSSVFNHVEHWTKCKRSKRSRDF	
SEQIDNO_29	(1)	MALETLTSPRLSSPMP---T---LFQDSALG---FHGSKCKRSKRSRDEF	
SEQIDNO_33	(1)	MALEALNSPR-----LVEDPLRFNGVEQWTKCKRSKRSRDL	

SEQID NO:8

	51		100
SEQIDNO_13	(36)	---DH-----PSEEEYLALCLIMLARGGTTTVNNRHVSFPFP	
SEQIDNO_15	(42)	-DQSS-----CTEEYLYALCLIMLARGNNNDKKSLSVATP	
SEQIDNO_21	(42)	-MERQ-----CTEEYLYALCLIMLARGSGSVNNSRSLPFPFP	
SEQIDNO_25	(45)	-MERQ-----PTEEEYLALCLIMLARGSGSVNHQRSLLPFPFA	
SEQIDNO_17	(44)	-DAP-----PTEEEYLALCLIMLARGSGTGTRTGLTDATTS	
SEQIDNO_27	(46)	PSSSSSSPFRSRPKSQNODLTEEEYLALCLIMLAKDQPSQTRFHQCSQS-	
SEQIDNO_2	(45)	HHQN-----LTEEEYLALCLIMLARDNRQ-----	
SEQIDNO_29	(42)	DRQS-----LTEDEYIALCLIMLARDGDRNRDLDPSSSS	
SEQIDNO_33	(39)	HHNKR-----LTEEEYLALCLIMLARDGGD-----	

SEQID NO:9

	101		150
SEQIDNO_13	(69)	LQPPQP-----TP-DPSTKLSYKCSVCDKSFPSYQALGGHKASH	
SEQIDNO_15	(77)	-----LTTVKLSHKCSVONKAFSSYQALGGHKASH	
SEQIDNO_21	(77)	LPFSVFTSQI-----NATLLE-QKNLYKCSVCGKGFSSYQALGGHKASH	
SEQIDNO_25	(80)	PVMKLHAFSSS-----SAAEEKEKMYKCSVCGKGFSSYQALGGHKASH	
SEQIDNO_17	(78)	QQPADKKTAEPLPFVHKKEVATEQAEQSYKCSVCDKAFSSYQALGGHKASH	
SEQIDNO_27	(95)	-----LTPFPESKNLPYKONVOEKAFPSYQALGGHKASH	
SEQIDNO_2	(69)	-----PFPFPAVEKLSYKCSVCDKTFSSYQALGGHKASH	
SEQIDNO_29	(77)	-----S-----PFLPLPLPTPIYKCSVCDKAFSSYQALGGHKASH	
SEQIDNO_33	(64)	-----LDSVTVAEKPSYKCGVCYKTFSSYQALGGHKASH	

SEQID NO:5

	151		200
SEQIDNO_13	(108)	RKLAGAAE--DQFSS---TTTSSAAATSSASG-----GKAHECSICH	
SEQIDNO_15	(107)	RKAVMSAT--TAEDQ---ITTTSSAVTSSASNG-K---NKTHECSICH	
SEQIDNO_21	(121)	RKLVSMGG--DEQST---TSTTTNVTG--TSSANVNGN--GRTHECSICH	
SEQIDNO_25	(125)	RKLVPGG--DEQST---TSTTTNATGTTTSVNGNENRSGRTHECSICH	
SEQIDNO_17	(128)	RKTTTAT--AASDDNNPSTSTSTGAVNISALNP-T---GRSHVCSICH	
SEQIDNO_27	(129)	RIKPTVISTTADDSTAFITISIVAGEKHP-----IAASGKIHECSICH	
SEQIDNO_2	(103)	RKNLSQTL--SGGGDDHSTSSATTTSAVTTGSG-----KSHVCTION	
SEQIDNO_29	(112)	RKSTSLTQ--SAGGDELSTSSAITTSGISGGGGG-----SVKSHVCSICH	
SEQIDNO_33	(98)	RSLYGGGE--N---DKSTPSTAV-----KSHVCSVCG	

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		201		250
SEQIDNO_13	(145)	KSFPTEQALGGHARCHYEGNGNGNNNN-----SNSVVTVASEGVGSTH		
SEQIDNO_15	(147)	KSFPTEQALGGHARCHYEGSVG-----AGAGASSNAVTASEGVLSH		
SEQIDNO_21	(162)	KCFPTQALGGHARCHYDG-GNGNGNG-----SVSVGVTSSEGVGSTI		
SEQIDNO_25	(168)	KCFPTQALGGHARCHYDG-GIGNGNAN---SGVSAASVGVTSSEGVGSTV		
SEQIDNO_17	(171)	KAFPTQALGGHARCHYEGKLGNSRDLGGGGGGHSGSVLTTSDDGGAST		
SEQIDNO_27	(172)	KVFPTQALGGHARCHYEGNLGG-----GGGGGSKSISHSGSVSTV		
SEQIDNO_2	(143)	KSPFSGQALGGHARCHYEGNNN-----INTSSVSNSEGAGSTS		
SEQIDNO_29	(155)	KSPATQALGGHARCHYEGKNGG-----GVSSSVSNSEDVGSTS		
SEQIDNO_33	(125)	KSPATQALGGHARCHYDGGVS-----NSE-----GVGSTS		

SEQID NO:5

		251		300
SEQIDNO_13	(188)	TVSHGHHRFDLNIHAFPDFSTKVG--E-----DEVESPHPMKK		
SEQIDNO_15	(189)	SH----HRFDLNIHAFPDFSKKFFVDD-----EVFSPLPAAKK		
SEQIDNO_21	(204)	SH----HRFDLNIHALPEFWPGFGSGE-----DEVESPHPAKKS		
SEQIDNO_25	(214)	S-----HRFDLNIHALPEFWLGFSGE-----DEVESPHPAKKS		
SEQIDNO_17	(221)	HT----LRFDLNIHASPQLQLGLSIDCGRKSQLLPMVQEVESPMPAKKP		
SEQIDNO_27	(214)	SEERSHRGFDLNIHALPELSLHHN--P-----IVDEEILSPLTGKKP		
SEQIDNO_2	(181)	HVSSS-HRFDLNIHPIPEFSMVNG-----DDEVMSPMPAKKP		
SEQIDNO_29	(194)	HVSSG-HRFDLNIHPIPEFSMVNG-----DDEVMSPMPAKKL		
SEQIDNO_33	(156)	HVSSSSHGFDLNIHPIVQGFSP-----DDEVMSPMATKKP		

SEQID NO:7

		301		319
SEQIDNO_13	(226)	PRLEFVIPKIEIPQFC----		
SEQIDNO_15	(224)	---PCLFKLEIPSHY----		
SEQIDNO_21	(240)	-RLSLPPKLELFFKGL----		
SEQIDNO_25	(249)	-RLCLPPKYELFQH-----		
SEQIDNO_17	(267)	---RLLFSLG-----		
SEQIDNO_27	(255)	LLLTDHDQVIKKEDLSLKI		
SEQIDNO_2	(218)	-----RFDFFVKLQL--		
SEQIDNO_29	(231)	-----RFDFFPEKP----		
SEQIDNO_33	(191)	-----RLK-----		
Consensus	(301)	KLE		

Figure 1. Multiple amino acid sequence.

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The sequences of the pending claims are believed to have been examined and rejoinder and consideration of same are requested.

Claims 1-4, 10-17, 19-23, 29-34 and 43-56 are pending.

Claims 5-9, 11, 18, 24-28, 30-34, 35-43, 48 and 52, have been canceled, without prejudice.

Claims 1-4, 10, 12-17, 29, 44-47, 49-51 and 53-56 will be pending upon entry of the present Amendment. Entry of the Amendment is requested to at least reduce the issues for appeal. Specifically, entry of the present Amendment will make moot the Section 102 rejection of claims 30-34 and 52 over Pineda (WO 01/36598) and the Section 101 rejection of claim 30. Entry of the present Amendment and withdrawal of the Section 102 and Section 101 rejection are requested.

The present Amendment does not raise new issues requiring further search and/or consideration. The Amendment does not add new matter. Entry of the present Amendment is requested.

To the extent not made moot by the present Amendment, the objections to claims 2, 30, 47, 54, 55 and 56 are obviated by the Amendment. Entry of the present Amendment and withdrawal of the objections are requested.

To the extent not made moot by the above amendments, the Section 112, second paragraph, rejection of claims 1-4, 10-17, 19-23, 29-34 and 43-52 is obviated by the above amendments. Entry of the present Amendment and withdrawal of the requested are requested. Specifically, claim 1 has been revised to delete that objected-to parenthetical recitation of SEQ ID NO:51. The objected-to recitations

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relating to the percent identities have been deleted. The objected-to recitations of "modified" have been deleted. Withdrawal of the rejection is requested.

The Section 112, second paragraph, rejection of claim 56 is obviated by the above amendments. Claim 56 has been made dependent from claim 29, which was not similarly rejected. Claim 29 has been amended above however, without prejudice, based on the Examiner's comments spanning pages 4-5 of the Office Action dated February 25, 2009. Entry of the present Amendment and withdrawal of the Section 112, second paragraph, rejection of claim 56 are requested.

The Section 112, first paragraph "written description", rejection of claims 1-4, 10-17, 19-23, 29-34 and 43-56 is obviated by the above amendments. Reconsideration and withdrawal of the rejection are requested in view of the above and the following comments.

One of ordinary skill in the art will appreciate from the applicants disclosure that SEQ ID NOs: 5¹, 7, 8 and 9 define regions of SEQ ID NO:2 which are essential and sufficient for producing the claimed phenotypes. The above sequence comparison demonstrates same. The Examiner's comments relating to 80% identity and basis for the rejection on same² are obviated by the above amendments. The specific sequences of the claims and disclosure contain the motifs of the amended independent claims, without reference to homologs or homologous sequences³. Entry of the present

¹ Or the alternative SEQ ID NO:51.

² See for example, last paragraphs on pages 5 and 7 of the Office Action dated February 25, 2009.

³ See page 6 of the Office Action dated February 25, 2009.

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Amendment and withdrawal of the Section 112, first paragraph "written description" rejection, are requested.

The Section 112, first paragraph "enablement", rejection of claims 1-4, 10-17, 19-23, 29-34 and 43-56 is obviated by the above amendments. Reconsideration and withdrawal of the rejection are requested in view of the above, the following and the attached Declaration. The attached Declaration is submitted in response to the Examiner's invitation on pages 9 and 11 of the Office Action dated February 25, 2009. The attached Declaration presents the previously-presented evidence in Declaration form. Moreover, the following sequence comparison of SEQ ID NOs: 2, 27 and 37 is provided for the Examiner's convenience.

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SEQIDNO_2      NALRALTSPLASPIPLFEDSS--VHGVEHWTKRKRKRSP-----SUFHQNLFEEYLAFQIMLLRDN-----PQPPPPVA
SEQIDNO_27      MALDAMNTPISSTPIETKEDLMDAVIEEWLKKRKRQRSHSSSSSSPPSRKSNQQLFEEYLALCIIIMLKQSPQTRFHQSSSLTEPPE
SEQIDNO_37      MSSASCHALHAAVLKKEQQCHEVEATVTSQATSGEGGHLPGWHRKRKR-----PQEEENALCIIIMLRGGHHRVQAPFPLSASAFPFA

                      SEQID NO: 8
                      SEQID NO: 9

SEQIDNO_2      VEKLSYKCSVCKTFSQALGGHHAHQKRLNLSQTLSG-----GGDMHSTSSATTS--AVTGS-QKSHVATIGNKSPFSQALGGHHRCH
SEQIDNO_27      SKNLPYKCNVALEKAPFSQALGGHHAHQKRLNLSQTLSG-----TADOSTATISIVAGEKPIAASGKIHESIGKRVFTTQALGGHHRCH
SEQIDNO_37      G--AEFRCVQCHSPFSQALGGHHAHQKRLNLSQTLSG-----SOGMTRVHRKUSICQKEFTTQALGGHHRCH

                      SEQID NO: 5
                      SEQID NO: 7

SEQIDNO_2      YEGNN-----INTSSVSHSEGAQSTSHVSSSHRG-----FDINIPLEFSGMNG-----DDEVMSHPAKPRDFPVKLQL-----
SEQIDNO_27      YEGNLCGGGGGSLISHSVSVSTVSRSRHRGP-----IDUNLPLEFSLHHRPI-----VDEEILSPITGKFFLLTUDQVINKEDLSKI
SEQIDNO_37      YDGVGAG--AGASSTELLATVAESEVSGSGGQSATRFDSKLEVFFFWPPGCKGNEMCEEEVQSSLAFFPELLTA-----
                      SEQID NO: 7

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Figure 1. Amino acid sequence alignment of SEQ ID NO: 2, 27 and 37 showing the presence of the following motifs: L-box (SEQID NO:9), EAR motif (SEQID NO:7), the B-Box (SEQID NO:8) and the QALGGH motif (SEQID NO:5).

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The applicants submit that one of ordinary skill in the art will be able to make and use the claimed invention without undue experimentation. Withdrawal of the Section 112, first paragraph "enablement", rejection is requested.

The claims are submitted to be in condition for allowance and a Notice to that effect is requested. The Examiner is requested to contact the undersigned, preferably by telephone, in the event anything further is required in this regard.

Respectfully submitted,

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